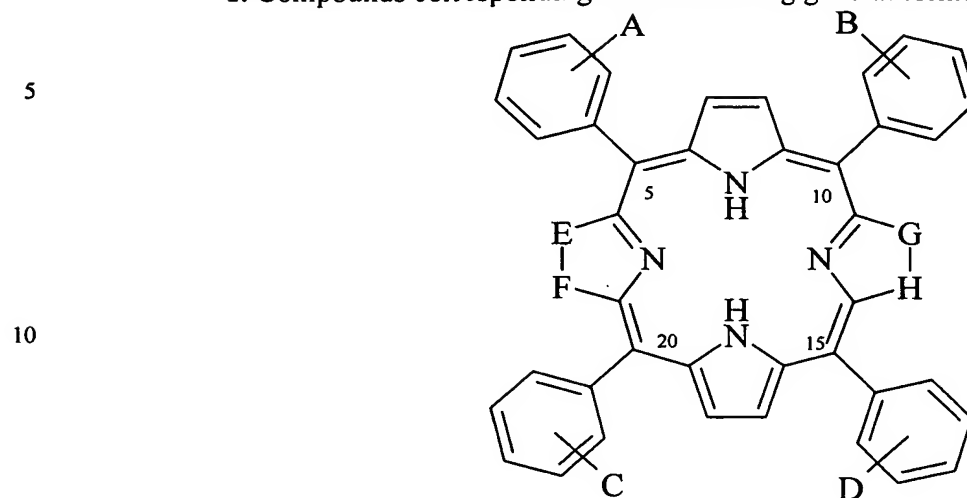


## CLAIMS

1. Compounds corresponding to the following general formula (I):



in which:

15 – when A forms a chain with C, the so-called A-C chain, of formula (1) below:



in which:

. when X represents NH, O, CO or CH<sub>2</sub>, Y represents respectively CO, CH<sub>2</sub>, NH, or O,

20 . n<sub>1</sub> and n<sub>2</sub>, independently of one another represents an integer comprised between 1 and 3,

. U represents a group of the C(Z,W) or N(CHR<sub>a</sub>-COOR<sub>b</sub>) form, in which

. Z represents:

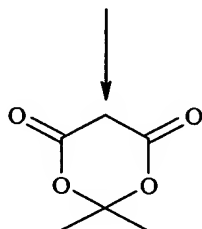
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- \* an electroattractive group such as CN, NO<sub>2</sub>, or CO<sub>2</sub><sup>-</sup>,
  - \* or a CH<sub>2</sub>NR<sub>1</sub>R<sub>2</sub> group, in which R<sub>1</sub> and R<sub>2</sub> represent, independently of one another, H, or a linear, branched, or cyclic alkyl group, with 1 to 8 carbon atoms, or an aryl or alkylaryl group, or a specific antibody, if appropriate linked to the CH<sub>2</sub>N part of said group via a spacer,

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- \* or an aryl group substituted by an SO<sub>3</sub>R<sub>3</sub>, SO<sub>2</sub>R<sub>3</sub>, p-NO<sub>2</sub> or o-NO<sub>2</sub> function, in which R<sub>3</sub> represents H, or a cation chosen from the alkali metals such as Na<sup>+</sup>, or K<sup>+</sup>, or R<sub>3</sub> represents an NR<sub>4</sub>R<sub>5</sub> group in which R<sub>4</sub> and R<sub>5</sub> represent, independently of one another, a linear, branched, or cyclic alkyl group, with 1 to 8 carbon atoms, or R<sub>3</sub> represents a para-nitro aryl group,

. W represents a  $\text{CO}_2^-$  or  $\text{COOR}_6$  group in which  $\text{R}_6$  represents H or a linear, branched, or cyclic alkyl group, with 1 to 8 carbon atoms, or an aryl group, or an alcohol depopulated of electrons such as a para-nitro phenol or ortho-para-nitro phenol group,

5 . or Z and W form in combination with the carbon atom which carries them a ring designated Meldrum's acid with the following formula:



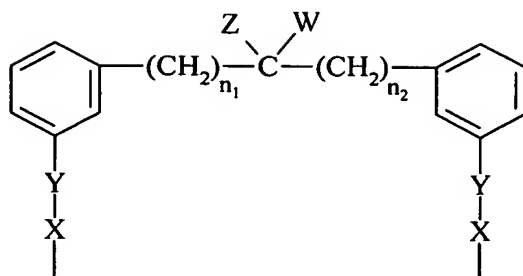
10 .  $\text{R}_a$  corresponds to the definition previously given for  $\text{R}_1$ , or can also preferably represent the side chain of a natural or modified amino acid,

15 .  $\text{R}_b$  corresponds to the definition previously given for  $\text{R}_1$ ,  
then B forms a chain with D, the so-called B-D chain, of the abovementioned formula (1), said A-C, and B-D chains, being situated independently of one another, above ( $\alpha$  position) or below ( $\beta$  position) the porphyrin macrocycle plane,

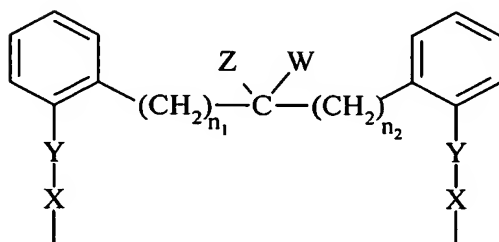
20 – or when A forms a chain with D, the so-called A-D chain, of the abovementioned formula (1), then B forms a chain with C, the so-called B-C chain, of the abovementioned formula (1), one of said A-D or B-C chains being situated above ( $\alpha$  position) the porphyrin macrocycle plane, whilst the other A-D or B-C chain, is situated below ( $\beta$  position) the porphyrin macrocycle plane,

25 – E represents in combination with F, and H represents in combination with G, independently of each other,  $\text{CH}=\text{CH}$ , or  $\text{CH}_2-\text{CH}_2$ .

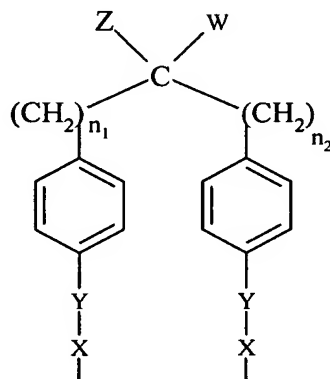
2. Compounds according to claim 1, characterized in that the chain formations of formula (1) are chosen from the following:



or



or



in which the Z and W groups are:

– either directed towards the interior of said compounds and are situated above or below the porphyrin macrocycle plane according to whether said chain formations of formula (1) are situated respectively in  $\alpha$  position or in  $\beta$  position, and are respectively designated  $Z_{i\alpha}$  and  $W_{i\alpha}$ , or  $Z_{i\beta}$  or  $W_{i\beta}$ ,

– or directed towards the exterior of said compounds, and are respectively designated  $Z_e$  and  $W_e$ .

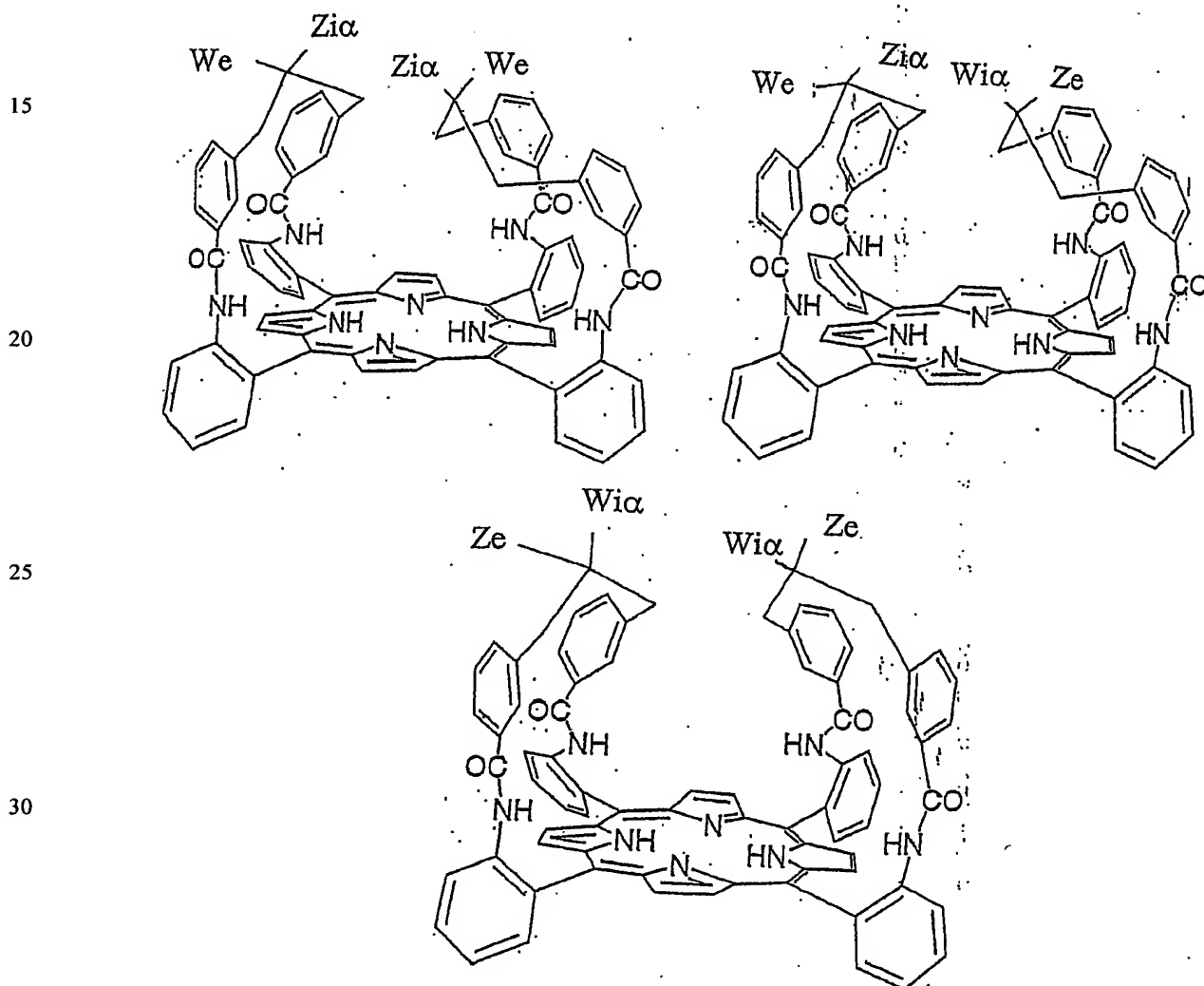
3. Compounds according to claim 1 or 2, characterized in that A, B, C, and D are in ortho position, and/or in that E represents in combination with F, and H represents in combination with G,  $\text{CH}_2\text{-CH}_2$ .

4. Compounds according to one of claims 1 to 3, characterized in that A forms with C, and B forms with D, chain formations of formula (1) respectively designated A-C and B-D, these two chain formations being situated in  $\alpha$  position.

5. Compounds according to claim 4, characterized in that:

- the A-C and B-D chain formations each comprise a  $Zi\alpha$  group and a We group,
- or the A-C chain formation comprises a  $Zi\alpha$  group and a We group, whilst the B-D chain formation comprises a Ze group and a  $Wi\alpha$  group,
- or the A-C and B-D chain formations each comprise a Ze group and a  $Wi\alpha$  group.

6. Compounds according to claim 4 or 5, characterized by the following formulae:



7. Compounds according to one of claims 1 to 3, characterized in that A forms with C an A-C chain formation of formula (1) situated in  $\alpha$  position, and B forms with D, a B-D chain formation of formula (1) situated in  $\beta$  position.

8. Compounds according to claim 7, characterized in that:

- the A-C chain formation comprises a  $Zi\alpha$  group and a We group, whilst the B-D chain formation comprises a  $Zi\beta$  group and a We group,

- or the A-C chain formation comprises a Ze group and a  $Wi\alpha$  group, whilst the B-D chain formation comprises a  $Zi\beta$  group and a We group,

- or the A-C chain formation comprises a Ze group and a  $Wi\alpha$  group, whilst the B-D chain formation comprises a Ze group and a  $Wi\beta$  group.

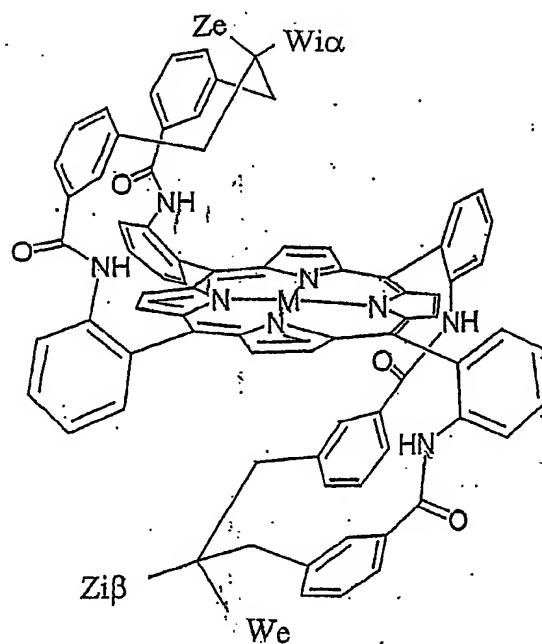
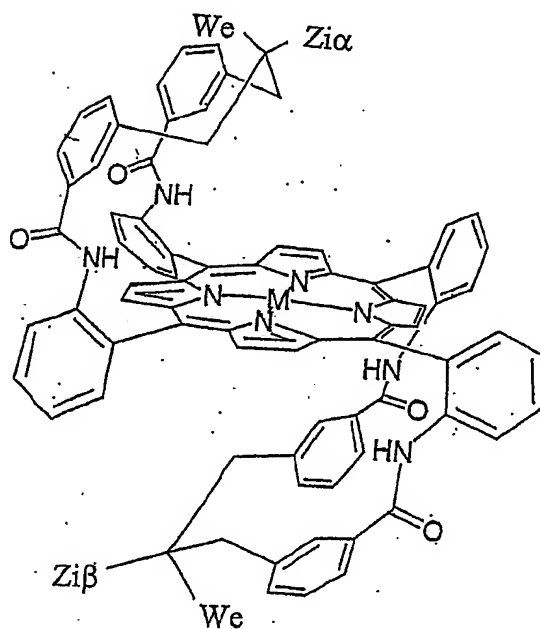
9. Compounds according to claim 7 or 8, characterized by the following formulae:

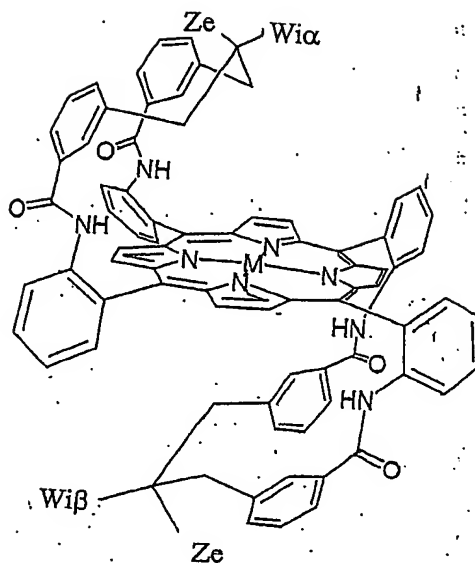
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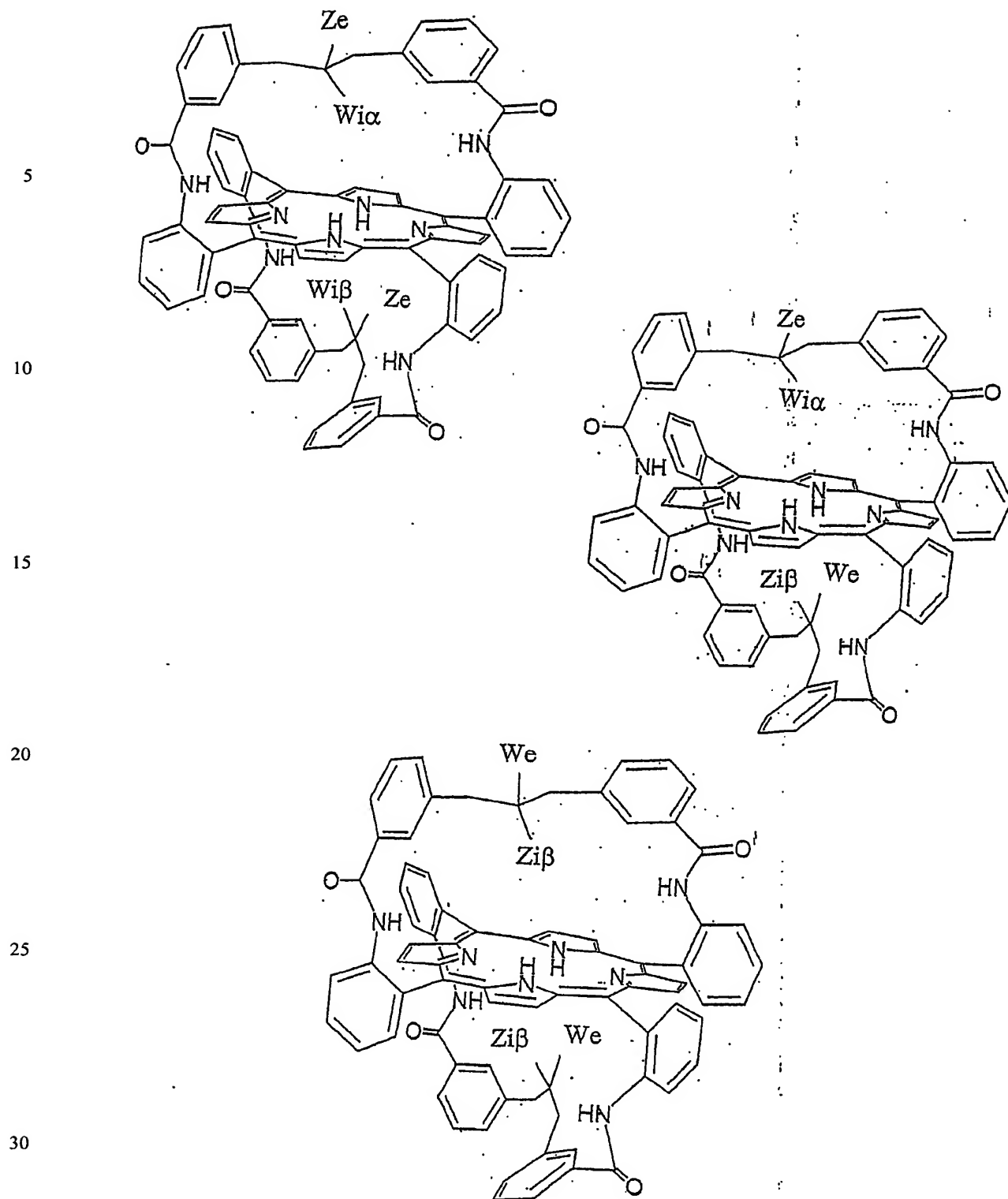


10. Compounds according to one of claims 1 to 3, characterized in that A forms with D an A-D chain formation of formula (1) situated in  $\beta$  position, and B forms with C, a B-C chain formation of formula (1) situated in  $\alpha$  position.

11. Compounds according to claim 10, characterized in that:

- the A-D chain formation comprises a Ze group and a Wi $\beta$  group, whilst the B-C chain formation comprises a Ze group and a Wi $\alpha$  group,
- or the A-D chain formation comprises a Zi $\beta$  group and a We group, whilst the B-C chain formation comprises a Ze group and a Wi $\alpha$  group,
- or the A-D and B-C chain formations each comprise a Zi $\beta$  group and a We group.

12. Compounds according to claim 10 or 11, characterized by the following formulae:



**13.** Complexes between a compound according to one of claims 1 to 12, and a radioelement chosen from the  $\alpha$  emitters, or a divalent or trivalent metallic element.

14. Complexes according to claim 13 between a compound according to one of claims 1 to 12, and an  $\alpha$ -emitter radioelement chosen from bismuth-212 or -213, actinium-225, or astatine-211.

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15. Complexes according to claim 13 between a compound according to one of claims 1 to 12, and a divalent or trivalent metallic element chosen from Y(III), In(III), Cd(II), Mg(II), Mn(III), Fe(III), B(III) and the lanthanides.

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16. Pharmaceutical composition characterized in that it comprises a complex according to one of claims 13 to 15, in combination with a pharmaceutically acceptable vehicle.

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17. Pharmaceutical composition according to claim 16, characterized in that it is presented in a form which can be administered by intravenous route.

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18. Use of complexes defined in one of claims 13 to 15, for preparing a medicament intended for the treatment of cancer, or for preparing compositions intended for medical imaging.

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19. Use according to claim 18 of complexes defined in one of claims 13 to 15, for preparing a medicament intended for the treatment of tumorous small-cell cancers, such as acute myeloid leukemia, non-Hodgkin's lymphomas, bronchopulmonary dysplasias, metastatic breast cancers, colorectal cancers, lymphomas, and pathologies in which the following antigenic units are involved: CD52, CD22, CD20, HLA-DR, CD33, LE-Y, Ep-CAM, ACE, CAN, EGFR, KSA, VEGF, HER2, GD2, tenascin.